



Arapahoe Flight Club

Colorado Springs, CO.

ROTORCRAFT HELICOPTER

TO PRIVATE PILOT AIRPLANE – SINGLE ENGINE LAND

Additional Aircraft Category and Class Rating

COURSE SYLLABUS

15 July, 2019

## COURSE DESCRIPTION

This training syllabus is designed to meet all the curriculum requirements for Additional Category and Class rating of Private Pilot Airplane – Single Engine Part 61, Subpart E. The syllabus is divided into 14 flight lesson plans, summarized below:

FLIGHT LESSON MINIMUM HOURS						
Lesson	Dual Hours	Solo Hours	Dual Cross Country	Instrument Hours	Night	Solo Cross Country
1	2.0					
2	2.0			0.5		
3	2.0			0.5		
4	2.0			0.5		
5	1.5					
6	1.5	0.5				
7		1.5				
8	3.0		3.0	1.0		
9		3.0				3.0
10	1.5				1.5	
11	1.5		1.5	0.5	1.5	
12		1.5				
13	2.0					
14	2.0					
<b>Total</b>	21.0	6.5	4.5	3.0	3.0	3.0

## OBJECTIVE

The lesson plans are designed to quickly and efficiently transition the student from a rotor to a fixed-wing pilot. There is no ground school required for this course, however the student is responsible for all ground training for fixed-wing aircraft. Each flight lesson plan includes 0.5 hours of ground training, one on one with the instructor. At the end of the course, the student will have successfully completed all flight training and passed the practical test for add on for Private Pilot Airplane – Single Engine

## COURSE ELIGIBILITY

To be eligible for enrollment the student must have an FAA Commercial or Private Pilot Certificate with Rotorcraft – Helicopter category and class rating. Additionally, the pilot must have at least a Third Class medical certificate within the first two weeks of training.

**OBJECTIVE:** The pilot will be introduced to the training aircraft with an emphasis on airplane procedures, local area procedures, radio usage and procedures and aircraft handling during basic maneuvers.

**CONTENT:**

- Preflight preparation, including computing weight and balance and performance calculations.
- Operation of powerplant and aircraft systems.
- Certificates and documents to include ARROW and Minimum Equipment List (MEL).
- Airplane servicing and equipment checks.
- Emergency equipment (first aid kits and fire extinguisher).
- Positive exchange of flight controls.
- Engine starting.
- Radio communications.
- Ground operations and taxiing including proper control inputs for winds.
- Airport operations to include wind shear, wake turbulence, and collision avoidance procedures.
- Before Takeoff Checks.
- Normal Take Off and Climb.
- Local area procedures to include airport traffic patterns, including entry and departure procedure.
- Flight orientation and flight at various airspeeds from cruise to slow flight.
- Basic flight maneuvers: straight and level, turns in both directions, climbs, descents and descending turns high and low drag configurations, and level off.
- Ground reference maneuvers.
- Normal approach and landing.
- After landing procedures.
- Parking and securing the airplane.

**COMPLETION:** Display basic knowledge of local area procedures, aircraft systems and ground checks prior to flight. The student will be familiar with the aircraft controls and how they are used to maneuver the airplane on the ground and in the air.

***Including 0.5 Instrument Hours***

**OBJECTIVE:** The pilot will gain proficiency in the element of the previous flight and be introduced to integrated airplane control, controlling the airplane by instrument reference, additional takeoff, traffic pattern, and landing operations, flight at minimum controllable airspeed, recognition and recovery from stalls, and go around procedures.

**CONTENT:**

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Crosswind takeoff and landing.
- Traffic pattern operations.
- Basic instrument maneuvers.
- Flight at minimum controllable airspeed.
- Power-on and power-off stalls; stall entries from various flight attitudes and over combinations with recovery initiated at the first indication of a stall and recovery from a full stall.
- Ground reference maneuvers.
- Go around and low approach procedures.

**COMPLETION:** The pilot will be able to make takeoffs with no assistance from the instructor. The pilot will be able to perform the preflight and display proficiency in aircraft control both on the ground and during basic flight maneuvers. Interactions with ATC in the traffic pattern, the local training area will show understanding and knowledge through proper radio procedures and accurate communications. The pilot will demonstrate adequate skill to maintain desired altitude within 100 feet, airspeed within 10 knots/mph, and heading within 10 degrees.

***Including 0.5 Instrument Hours***

OBJECTIVE: The pilot will gain proficiency in the element of the previous flights and be introduced to stall recognition and recovery and spin awareness training.

CONTENT:

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Ground reference maneuvers.
- Basic flight maneuvers – both by visual reference and solely by instrument reference.
- Flight at minimum controllable airspeed.
- Flight at various airspeeds and configurations.
- Normal and crosswind takeoffs and climb
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Go around procedures.
- Steep turns.
- Forward slip to landing (no flap)
- Power-on and power-off stall recovery series.
- The instructor will demonstrate:
  1. Accelerated stall and recovery
  2. Secondary stall and recovery
  3. Elevator trim and stall
  4. Trim tab stall and recovery
- Spin recovery techniques.
- Post flight procedures.

COMPLETION: The pilot will be able to perform takeoffs without the instructor assistance. Landings will be completed with only verbal instructor assistance. Pilot will demonstrate knowledge of critical speeds, stall recognition and recovery techniques. The pilot will demonstrate adequate skill to maintain desired altitude within 100 feet, airspeed within 10 knots/mph, and heading within 10 degrees.

***Including 0.5 Instrument Hours***

**OBJECTIVE:** The pilot will gain proficiency in the element of the previous flights and be introduced to emergency procedures, emergency approach and landing, system and equipment malfunctions, emergency descents and ground reference maneuvers.

**CONTENT:**

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Basic instrument maneuvers.
- Steep turns.
- Flight at various airspeeds and configurations.
- Flight at minimum controllable airspeed.
- Power-on and power-off stalls (straight and level and shallow bank turns).
- Spin recovery techniques.
- Ground reference maneuvers.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Forward slip to landing (no flap).
- Go around procedures.
- Emergency procedures and equipment malfunctions.
- Emergency descent, approach and landing with simulated engine malfunction.
- Post flight procedures.

**COMPLETION:** The pilot will be able to perform takeoffs without the instructor assistance. Landings will be completed with minimal instructor assistance. Pilot will demonstrate proficiency in performing flight at slow speeds, stall recognition and recovery from full stalls. The pilot will demonstrate adequate skill to maintain desired altitude within 100 feet, airspeed within 10 knots/mph, and heading within 10 degrees.

## **Flight Lesson #5 – Flight check with different instructor**

**Dual 2.0**

**OBJECTIVE:** The pilot will be evaluated to determine if he/she is prepared to depart the traffic pattern area for future solo flights. The pilot will also be evaluated in all other maneuvers, procedures, and knowledge areas appropriate to first solo flight operations in the traffic pattern.

### **CONTENT:**

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Emergency procedures and simulated emergency approach and landing.
- Go around procedures.
- Post flight procedures.

**COMPLETION:** The pilot will be able to perform takeoffs, landings, and go-arounds without instructor assistance.

## Flight Lesson #6

1.5 Hours Dual and 0.5 Hours Solo

OBJECTIVE: The pilot will be introduced to maximum performance takeoff, climb, approach and landing, and recoveries from unusual attitudes by instrument reference. Then the student will perform supervised solo flight in the local traffic pattern.

### CONTENT:

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Basic instrument maneuvers.
- Steep turns.
- Flight at various airspeeds and configurations.
- Flight at minimum controllable airspeed.
- Power-on and power-off stalls (straight and level and shallow bank turns).
- Spin recovery techniques.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Forward slip to landing (no flap).
- Go around procedures.
- Unusual attitude recovery procedures on instruments.
- Short field takeoff and landing.
- Soft field takeoff and landing.
- Post flight operations.

COMPLETION: The pilot will be able to perform soft and short field takeoffs using correct techniques: configuration, rotation, liftoff, and climb with speed within 5 knots/mph of recommended airspeed. Approaches and landings will be stabilized using correct techniques: configuration, power application, rotation, and touchdown with approach airspeed within 5 knots/mph of recommended airspeed and with minimum instructor input. The pilot will complete three solo takeoffs and landings.



**OBJECTIVE:** The pilot will review the listed maneuvers to gain additional proficiency and confidence. The pilot will perform this solo flight in the local training area and traffic pattern, complying with all established limitations.

**CONTENT:**

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Steep turns.
- Flight at various airspeeds and configurations.
- Flight at minimum controllable airspeed.
- Power-on and power-off stall recoveries.
- Ground reference maneuvers.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Forward slip to landing (no flap).
- Go around procedures.
- Post flight operations.

**COMPLETION:** The pilot will be able to perform the maneuvers listed above during solo flight, complete the post flight procedures including accurate completion of fueling, ground handling and training records.

***Including 1.0 Instrument Hours***

OBJECTIVE: The pilot will be introduced to cross country flight planning for airplanes, obtaining weather, NOTAMs, and TFRs and consider diversion flight procedures.

CONTENT:

- Preflight preparation.
- Preflight action that includes: How to obtain information on runway lengths at airports of intended use, data on takeoff and landing distances, weather reports and forecast and fuel requirements; and how to plan for alternatives if the planned flight cannot be completed or delays are encountered.
- Cross country flight planning.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Basic instrument maneuvers.
- Emergency procedures.
- Emergency descent.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Navigation including the use of aeronautical charts using pilotage and dead reckoning and radio navigation.
- Diversion techniques.
- Lost procedures.
- Post flight operations.

COMPLETION: The pilot will demonstrate proficiency with cross country flight planning, pilotage, dead reckoning, and radio navigation. The pilot will also demonstrate lost and diversion procedures. The pilot will show proficiency in obtaining flight planning data: weather, NOTAMs, TFRs, aeronautical charts, and Airport/Facilities Directory. The pilot will show proficiency in analyzing the available data, applying current and forecast conditions to the flight conducted safely. The pilot will maintain altitude within 100 feet, airspeed within 10 knots/mph, heading within 10 degrees of course within 3 nautical miles and arrive at check points within 5 minutes.

**OBJECTIVE:** The pilot will review previously introduced maneuvers and procedures and continue to develop additional proficiency in those maneuvers and procedures. The pilot will prepare a navigation log and the instructor will review cross country flight planning prior to the flight. The pilot will conduct the cross country flight.

**CONTENT:**

- Preflight preparation.
- Cross country flight planning.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Navigation.
- Obtaining in flight weather.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Go around procedures.
- Post flight procedures that includes a discussion with the instructor on the aeronautical decisions affecting this flight.

**COMPLETION:** The pilot will successfully complete a cross country solo flight of at least 100 NM with landings at three airports. The pilot will evaluate his/her success at maintaining altitude within 100 feet, airspeed within 10 knots/mph, heading within 10 degrees. Pilot will show that he/she was able to maintain course within 3 nautical miles and arrive at checkpoints within 5 minutes by entries made on the navigation log.

OBJECTIVE: The pilot will be introduced to night flight procedures for airplanes in the local traffic pattern.

CONTENT:

- Preflight preparation.
- Night and high altitude operations.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Simulated system equipment malfunctions.
- Normal and crosswind takeoffs and climb.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Go around procedures.
- Post flight procedures.

COMPLETION: The pilot will safely conduct night flight operations in the local traffic pattern completing from 5 to 10 takeoffs and landings to a full stop.

*Including 0.5 Instrument Hours*

OBJECTIVE: The pilot will be introduced to night cross country flight planning and cross country flight procedures for airplanes.

CONTENT:

- Preflight preparation.
- Night and high altitude operations.
- Ground operations.
- Airport operations.
- Normal and crosswind takeoffs and climb.
- Emergency procedures and emergency approach and landing – simulated.
- Night cross country flight planning.
- Night cross country navigation.
- Basic instrument maneuvers.
- Go around procedures.
- Post flight procedures.

COMPLETION: The pilot will be proficient with night cross country flight planning, navigation, lost procedures, and diversion to an alternate. Successful completion of this lesson includes the completion of a night dual cross country of more than 100 NM total distance and that at least 10 takeoffs and landings to a full stop at night have been logged.

**OBJECTIVE:** The pilot will review the listed maneuvers to gain additional proficiency and confidence. The pilot will perform a solo flight in the local training area and traffic pattern. The pilot will comply with all established limitations.

**CONTENT:**

- Preflight preparation.
- Ground operations.
- Airport operations.
- Local area procedures.
- Basic flight maneuvers.
- Normal and crosswind takeoffs and climb.
- Short and soft field takeoffs.
- Steep turns.
- Flight at various airspeeds and configurations.
- Flight at minimum controllable airspeed.
- Power-on and power-off stalls.
- Stall recovery techniques.
- Ground reference maneuvers.
- Traffic pattern operations.
- Normal and crosswind approach and landing.
- Crosswind takeoff and landing.
- Short and soft field landings.
- Forward slip to landing (no flap).
- Go around procedures.
- Post flight procedures.

**COMPLETION:** The pilot will be able to perform the listed maneuvers during solo flight to at least the standards set forth in the current Practical Test Standards for Private Pilot – Airplane Single Engine Land.

OBJECTIVE: The pilot will demonstrate satisfactory knowledge and consistent flight proficiency in all tasks required by the current Private Pilot Practical Test Standards (PTS) for the additional category and class rating of Airplane – Single Engine Land.

CONTENT:

- Preflight preparation.
- Performance and Limitations.
- Operation of systems.
- Preflight inspection.
- Engine Starting.
- Taxiing.
- Before Takeoff Checks.
- Airport operations and traffic patterns.
- Airport runway and taxiway signs, markings, and lighting.
- Normal and crosswind takeoff, climb out, approach and landing.
- Soft field and short field takeoff, climb out, approach, and landing.
- Maximum performance climb out.
- Forward slip to a landing.
- Go around/rejected landing.
- Steep turns.
- Ground reference maneuvers.
- Maneuvering during slow flight.
- Power-on stall recovery.
- Power-off stall recovery.
- Spin awareness.
- Basic Instrument Maneuvers
- Emergency descent.
- Emergency approach and landing – simulated.
- System and equipment malfunctions.
- Emergency equipment and survival gear.
- After landing, parking and securing the airplane.

COMPLETION: The pilot will perform the listed maneuvers and the instructor will determine that the pilot is completing each maneuver to at least the standards set forth in the current Practical Test Standards for Private Pilot – Airplane Single Engine Land.

Go to: <https://iacra.faa.gov/iacra> and register. Email your “FTN” to your instructor before the next flight.

OBJECTIVE: The pilot will demonstrate satisfactory knowledge and consistent flight proficiency in all tasks required by the current Private Pilot Practical Test Standards (PTS) for the additional category and class rating of Airplane – Single Engine Land. The pilot will demonstrate these maneuvers to a different flight instructor for the purpose of preparing for the final check ride.

CONTENT:

- Preflight preparation.
- Performance and Limitations.
- Operation of systems.
- Preflight inspection.
- Engine Starting.
- Taxiing.
- Before Takeoff Checks.
- Airport operations and traffic patterns.
- Airport runway and taxiway signs, markings, and lighting.
- Normal and crosswind takeoff, climb out, approach and landing.
- Soft field and short field takeoff, climb out, approach, and landing.
- Maximum performance climb out.
- Forward slip to a landing.
- Go around/rejected landing.
- Steep turns.
- Ground reference maneuvers.
- Maneuvering during slow flight.
- Power-on stall recovery.
- Power-off stall recovery.
- Spin awareness.
- Basic Instrument Maneuvers.
- Emergency descent.
- Emergency approach and landing – simulated.
- System and equipment malfunctions.
- Emergency equipment and survival gear.
- After landing, parking and securing the airplane.

COMPLETION: The pilot will perform the listed maneuvers and the instructor will determine that the pilot is completing each maneuver to at least the standards set forth in the current Practical Test Standards for Private Pilot – Airplane Single Engine Land.

Upon completion the pilot may complete and submit an IACRA, and schedule a practical test.